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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Peter A. Ronzani, Jeffrey Jacobsen, Ronald Gale and  
Stephen Pombo

Prior Application Serial No.: 08/717,536, filed September 23, 1996,

which is a continuation of U.S. Serial No. 08/327,113, filed October 21, 1994, which is a Continuation-in-Part of U.S. Serial No. 08/287,970, filed August 9, 1994, which is a Continuation-in-Part of U.S. Serial No. 08/220,042, filed March 30, 1994, which is a Continuation-in-Part of U.S. Serial No. 08/141,133, filed October 22, 1993.  
HEAD-MOUNTED DISPLAY SYSTEM

For

Anticipated Classification  
of this Application:  
Class Subclass

Prior application:  
Examiner: X. Wu  
Art Unit: 2609

Assistant Commissioner for Patents  
Box FWC  
Washington, D.C. 20231

FILE WRAPPER CONTINUING APPLICATION (FWC)

I. This is a request for a filing under the file wrapper continuing application procedure, 37 CFR 1.62, for a

☒ continuation

☐ divisional

☐ continuation-in-part with a Preliminary Amendment for adding new subject matter (for oath or declaration see II below)

of copending application Serial No.: 08/717,536 filed on September 23, 1996, which is incorporated herein by reference in its entirety.

☐ This application is being filed by less than all the inventors named in the prior application in order to correct inventorship. In accordance with 37 CFR 1.62(a), the Assistant Commissioner is requested to delete the name(s) of the following person(s) who are not inventors of the invention being claimed in this application.

(further particulars of prior application are)

1. Title as originally filed HEAD-MOUNTED DISPLAY SYSTEM

and as last amended)

Date: May 16, 1997

EXPRESS MAIL LABEL NO. EM 482474275 US

2. Name of applicant(s) as originally filed and as last amended. Current correspondence address of applicant(s):

FULL NAME OF INVENTOR	<u>Ronzani</u> FAMILY NAME	<u>Peter</u> FIRST GIVEN NAME	<u>A.</u> SECOND GIVEN NAME
RESIDENCE & CITIZENSHIP	<u>Los Gatos</u> CITY	<u>California</u> STATE OR FOREIGN COUNTRY	<u>U.S.A.</u> COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	<u>16370 Matilija Drive</u> POST OFFICE ADDRESS	<u>Los Gatos</u> CITY	<u>California 95030</u> U.S.A. STATE & ZIP CODE/COUNTRY

FULL NAME OF INVENTOR	<u>Jacobsen</u> FAMILY NAME	<u>Jeffrey</u> FIRST GIVEN NAME	<u></u> SECOND GIVEN NAME
RESIDENCE & CITIZENSHIP	<u>Hollister</u> CITY	<u>California</u> STATE OR FOREIGN COUNTRY	<u>U.S.A.</u> COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	<u>501 Tevis Trail</u> POST OFFICE ADDRESS	<u>Hollister</u> CITY	<u>California 95023</u> U.S.A. STATE & ZIP CODE/COUNTRY

FULL NAME OF INVENTOR	<u>Gale</u> FAMILY NAME	<u>Ronald</u> FIRST GIVEN NAME	<u></u> SECOND GIVEN NAME
RESIDENCE & CITIZENSHIP	<u>Sharon</u> CITY	<u>Massachusetts</u> STATE OR FOREIGN COUNTRY	<u>U.S.A.</u> COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	<u>1 Old Wolomolopoag Rd.</u> POST OFFICE ADDRESS	<u>Sharon</u> CITY	<u>Massachusetts 02067</u> U.S.A. STATE & ZIP CODE/COUNTRY

FULL NAME OF INVENTOR	<u>Pombo</u> FAMILY NAME	<u>Stephen</u> FIRST GIVEN NAME	<u></u> SECOND GIVEN NAME
RESIDENCE & CITIZENSHIP	<u>Sunnyvale</u> CITY	<u>California</u> STATE OR FOREIGN COUNTRY	<u>U.S.A.</u> COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	<u>976 Harrison Avenue</u> POST OFFICE ADDRESS	<u>Sunnyvale</u> CITY	<u>California 94089</u> U.S.A. STATE & ZIP CODE/COUNTRY

The above-identified application in which no payment of issue fee, abandonment of, or termination of proceedings has occurred, is hereby expressly abandoned as of the filing date of this new application. Please use all the contents of the prior application file wrapper, including the drawings, as the basic papers for the new application.

It is understood that secrecy under 35 U.S.C. 122 is hereby waived to the extent that if information or access is available to any one of the applications in the file wrapper of a 37 CFR 1.62 application, be it either this application or a prior application in the same file wrapper, the PTO may provide similar information or access to all the other applications in the same file wrapper.

## II. Declaration or Oath

A. Continuation or divisional

☒ none required

B. Continuation-in-part

☐ Executed Declaration/Power of Attorney.

☐ Unexecuted copy of Declaration/Power of Attorney.

III. ☐ Please enter the previously filed amendment under 37 CFR 1.116 from the prior application.

## IV. Fee Calculation

A. ☒ The fees to be charged are based on the number of claims remaining as a result of the

☒ attached preliminary amendment.

☐ the unentered amendment filed under 37 CFR 1.116 in the prior application.

☐ the claims as on file in the prior application.

### CLAIMS FOR FEE CALCULATION

The filing fee has been calculated as shown below:

(Col. 1)		(Col. 2)	SMALL ENTITY		OTHER THAN A SMALL ENTITY	
FOR	NO. FILED	NO. EXTRA	RATE	FEE	RATE	FEE
BASIC FEE				\$ 385		\$ 770
TOTAL CLAIMS	50 - 20 =	* 30	X \$11=	\$	X \$22=	\$ 660
INDEP CLAIMS	3 - 3 =	* 0	X \$40=	\$	X \$80	\$ 0
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED			+ \$130=	\$	+ \$260=	\$
			Assignment Fee	\$	Assignment Fee	\$
			TOTAL:	\$	TOTAL:	\$ 1430.

\*If the difference in Col. 1 is less than zero, enter "0" in Col. 2

459450 0649

B. Small Entity Statement

- ☐ A verified statement that this is a filing by a small entity is attached.
- ☐ The small entity statement was filed in the parent application Serial No. \_\_\_\_\_ on \_\_\_\_\_ and its benefit under 37 CFR 1.28(a) is hereby claimed.

V. Method of Fee Payment

- ☐ Attached is a check in the amount of \$ \_\_\_\_\_
- ☒ Charge Account No. 08-0380 in the amount of \$ 1,430.00

VI. Authorization to Charge Additional Fees

- ☒ Authorization is hereby granted to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 08-0380. Two duplicate copies of this letter are enclosed.
- ☒ Any additional filing fees required under 37 CFR 1.16.
- ☒ Any patent application processing fees under 37 CFR 1.17.
- ☒ Authorization is hereby granted to charge payment of the following fees during pendency of this application or credit any overpayment to Deposit Account No. 08-0380. Two duplicate copies of this letter are enclosed.
- ☒ Any patent application processing fees under 37 CFR 1.17.
- ☒ Any filing fees under 37 CFR 1.16 for presentation of extra claims.

VII. Instructions as to Overpayment

- ☒ Credit Account No. 08-0380
- ☐ Refund

VIII. Prior Foreign Applications and Claim to Priority - 35 U.S.C. 119.

Listed below are foreign application(s) for patent or Inventor's Certificate on which priority is claimed. Also identified are any foreign application(s) for patent or Inventor's Certificate having a filing date before that of the application on which priority is claimed:

			Priority Claimed	
(Number)	(Country)	(Day/Month/Year filed)	Yes	No
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

IX. Relate Back - 35 U.S.C. 120

Amend the specification as follows:

- ☐ Insert the following paragraph before the first line of the specification:

Related Application

This application is a

- ☐ continuation
- ☐ division
- ☐ continuation-in-part

of co-pending application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_, which is incorporated herein by reference in its entirety.

- ☒ Replace the paragraph after "Related Applications" with the following:

This application is a

- ☒ continuation
- ☐ division
- ☐ continuation-in-part

of co-pending application Serial No. 08/717,536 filed  
September 23, 1996, which is a continuation of U.S. Serial  
No. 08/327,113, filed October 21, 1994, which is a Continuation-  
in-Part of U.S. Serial No. 08/287,970, filed August 9, 1994,  
which is a Continuation-in-Part of U.S. Serial No. 08/220,042,  
filed March 30, 1994, which is a Continuation-in-Part of U.S.  
Serial No. 08/141,133, filed October 22, 1993.

All of the above applications are incorporated herein by reference in their entirety.

X. Assignment

☒ The prior application is assigned of record to

Kopin Corporation, Reel 7341 Frames 0719-0732  
\_\_\_\_\_, Reel \_\_\_\_\_ Frames \_\_\_\_\_

☐ An assignment of the invention to \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

is attached.

XI.

☒ Power of Attorney

<u>David E. Brook</u>	<u>22,592</u>	<u>Patricia Granahan</u>	<u>32,227</u>
<u>James M. Smith</u>	<u>28,043</u>	<u>Mary Lou Wakimura</u>	<u>31,804</u>
<u>Leo R. Reynolds</u>	<u>20,884</u>	<u>Thomas O. Hoover</u>	<u>32,470</u>
<u>Richard A. Wise</u>	<u>18,041</u>	<u>Alice O. Carroll</u>	<u>33,542</u>
		<u>Rodney D. Johnson</u>	<u>36,558</u>

- ☐ A new power has been executed and is attached.
- ☒ The power appears in the original papers in the prior application.
- ☐ The power does not appear in the original papers, but was filed on \_\_\_\_\_.
- ☐ An associate power of attorney to \_\_\_\_\_.
- ☐ was filed in the prior application on \_\_\_\_\_.
- ☐ is enclosed herewith.

XII.

☒ Address all future communications to:

Thomas O. Hoover, Esq.  
Hamilton, Brook, Smith & Reynolds, P.C.  
Two Militia Drive  
Lexington, Massachusetts 02173

XIII. Maintenance of Copendency of Prior Application

Please abandon the prior application when any petition for extension of time filed in that application is granted and when this application is granted a filing date so as to make this application copending with said prior application.

- ☐ A petition and fee have been filed to extend the term for response in the pending prior application until \_\_\_\_\_.
- ☒ A petition and fee are attached to extend the term for response in the pending prior application until June 6, 1997.
- ☐ The term for response in the pending prior application expires \_\_\_\_\_.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.



By: Thomas O. Hoover

Registration No. 32,470

Attorney for Applicant(s)  
(617) 861-6240

Dated: May 16, 1997

Two Militia Drive  
Lexington, MA 02173

☒ Attorney or Agent of Record

☐ Filed under Rule §1.34(a)

44-38861-2258

KPNACAF2.PLA  
DEB163/Patents  
TOH/jks  
May 15, 1997

PATENT APPLICATION  
Docket No.: KPN93-09ACAF2

70270 U.S. PTO  
08/857273  
05/16/97

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Peter A. Ronzani, Jeffrey Jacobsen, Ronald  
Gale and Stephen Pombo

Prior Application Serial No.: 08/717,536

Filing Date: September 23, 1996

Group Art Unit: 2609 Examiner: X. Wu

Title: HEAD-MOUNTED DISPLAY SYSTEM

Date: May 16, 1997

EXPRESS MAIL LABEL NO. EM 482474275 US

PRELIMINARY AMENDMENT

The Assistant Commissioner for Patents  
Box FWC  
Washington, D.C. 20231

Sir:

Please amend the application as follows:

In the Title:

Please delete the present title and insert the following new  
title: --Portable Communication Display Device--.

In the Claims:

Please cancel Claims 1-20 and add the following new claims:

08/857273 05/16/97



21. A portable communications device comprising:
- a device housing;
  - a wireless receiver within the housing that receives image data;
  - an active matrix liquid crystal display, the display having an active matrix circuit including an array of transistor circuits and an array of pixel electrodes such that the active matrix circuit is bonded to an optically transmissive substrate with an adhesive layer;
  - a display driver circuit connected to the wireless receiver;
  - a lens that enlarges an image displayed on the display for viewing by a user; and
  - a display control panel on the device housing.
22. The device of Claim 21 wherein the active matrix liquid crystal display and the lens are positioned within a display module attached to the device housing.
23. The device of Claim 22 wherein the display module rotates relative to the device housing.
24. The device of Claim 21 wherein the device housing comprises a head mounted support.
25. The device of Claim 21 wherein the active matrix liquid crystal display comprises a video display.
26. The device of Claim 21 wherein the display has an array of at least 640 x 480 pixel electrodes.
27. The device of Claim 21 further comprising a cholesteric liquid crystal element along an optical path between the display and the lens.

28. The device of Claim 21 further comprising a video processing circuit within the housing.
29. The device of Claim 21 further comprising a port for receiving a memory card.
30. The device of Claim 21 further comprising a battery within the device housing.
31. The device of Claim 21 further comprising a backlight for the active matrix display.
32. The device of Claim 31 wherein the backlight comprises red, green and blue light sources.
33. The device of Claim 21 further comprising a modem within the device housing.
34. The device of Claim 21 wherein the array of transistors is formed with a silicon-on-insulator (SOI) structure.
35. The device of Claim 21 wherein the display module comprises a reflector around the backlight.
36. The device of Claim 21 wherein the display has a diagonal length of 0.7 inches or less.
37. The device of Claim 21 further comprising a central processing unit within the device housing.
38. The device of Claim 22 further comprising a flexible ribbon cable connecting the device housing and the display module.

39. The device of Claim 21 wherein the active matrix display and the lens are on a single optical axis.
40. A portable wireless telephone comprising:
  - a telephone housing;
  - a wireless receiver within the housing that receives audio and image data;
  - an active matrix liquid crystal display, the display having an active matrix circuit including an array of transistor circuits and an array of pixel electrodes such that the active matrix circuit is bonded to an optically transmissive substrate with an adhesive layer;
  - a display driver circuit connected to the wireless receiver;
  - a lens that enlarges an image displayed on the display for viewing by a user; and
  - a display control panel on the device housing.
41. The device of Claim 40 wherein the active matrix liquid crystal display and the lens are positioned within a display module attached to the device housing.
42. The device of Claim 41 wherein the display module rotates relative to the device housing.
43. The device of Claim 40 wherein the housing comprises a head mounted support.
44. The device of Claim 40 wherein the active matrix liquid crystal display comprises a video display.
45. The device of Claim 40 wherein the display has an array of at least 640 x 480 pixel electrodes.

46. The device of Claim 40 further comprising a cholesteric liquid crystal element along an optical path between the display and the lens.
47. The device of Claim 40 further comprising a video processing circuit within the housing.
48. The device of Claim 40 further comprising a port for receiving a memory card.
49. The device of Claim 40 further comprising a battery within the device housing.
50. The device of Claim 40 further comprising a backlight for the active matrix display.
51. The device of Claim 50 wherein the backlight comprises red, green and blue light sources.
52. The device of Claim 40 further comprising a modem within the device housing.
53. The device of Claim 40 wherein the array of transistors is formed with a silicon-on-insulator (SOI) structure.
54. The device of Claim 41 wherein the display module comprises a reflector around the backlight.
55. The device of Claim 40 wherein the display has a diagonal length of 0.7 inches or less.
56. The device of Claim 40 further comprising a central processing unit within the device housing.

57. The device of Claim 41 further comprising a flexible ribbon cable connecting the device housing and the display module.
58. The device of Claim 40 wherein the active matrix display and the lens are on a single optical axis.
59. A method of viewing an image with a portable communications device comprising:
  - providing a device housing enclosing a wireless receiver;
  - providing an active matrix liquid crystal display, the display having an active matrix circuit including an array of transistor circuits and an array of pixel electrodes such that the active matrix circuit is bonded to an optically transmissive substrate with an adhesive layer;
  - operating a display control panel on the device housing to display an image, the control panel being connected to a display driver circuit and the wireless receiver; and viewing through a lens an enlarged image displayed on the display.
60. The method of Claim 60 further comprising providing the active matrix liquid crystal display and lens are positioned within a display module attached to the device housing.
61. The method of Claim 60 further comprising rotating the display module relative to the device housing.
62. The method of Claim 59 further comprising mounting the device housing on a head mounted support.
63. The method of Claim 59 further comprising displaying a video display.

64. The method of Claim 59 further comprising providing a display with an array of at least 640 x 480 pixel electrodes.
65. The method of Claim 59 further comprising providing a video processing circuit within the housing.
66. The method of Claim 59 further comprising providing a port in the housing for receiving a memory card.
67. The method of Claim 59 further comprising providing a battery within the device housing.
68. The method of Claim 59 further comprising providing a backlight for the active matrix display.
69. The method of Claim 59 further comprising providing a modem within the device housing.
70. The method of Claim 59 further comprising providing the array of transistors formed with a silicon-on-insulator (SOI) structure.

Respectfully submitted,



Thomas O. Hoover

Registration No. 32,470

Attorney for Applicants

(617) 861-6240

Lexington, Massachusetts 02173

Dated: May 16, 1997